Het optionally substituted with $\mathbf{R_{22}}$ wherein $\mathbf{R_{22}}$ is C_{1-6} alkyl, C_{1-6} alkoxy, amido, (lower alkyl)amide, amino optionally mono- or di-substituted with C_{1-6} alkyl, or Het; and

$\mathbf{R_{21B}}$ is C_{1-6} alkyl, C_{1-6} alkoxy, amino, di(lower alkyl)amino, (lower alkyl)amide, NO_2, OH, halo, trifluoromethyl, or carboxyl;

$\mathbf{R^1}$ is ethyl, vinyl, cyclopropyl, 1 or 2-bromoethyl or 1 or 2-bromovinyl;

APG is an amino protecting group selected from: 1) acyl groups, 2) aromatic carbamate groups, 3) aliphatic carbamate groups, 4) cyclic alkyl carbamate groups, 5) alkyl groups, 6) trialkylsilyl, and 7) thiol containing groups; and

CPG is a carboxyl protecting group selected from: alkyl esters, aralkyl esters, and esters being cleavable by mild base treatment or mild reductive means.

81. The compound according to claim 80, wherein said carboxyl protecting group is selected from: methyl, trimethylsilylethyl, *t*-butyl, benzyl, substituted benzyl, trichloroethyl and phenacyl esters.

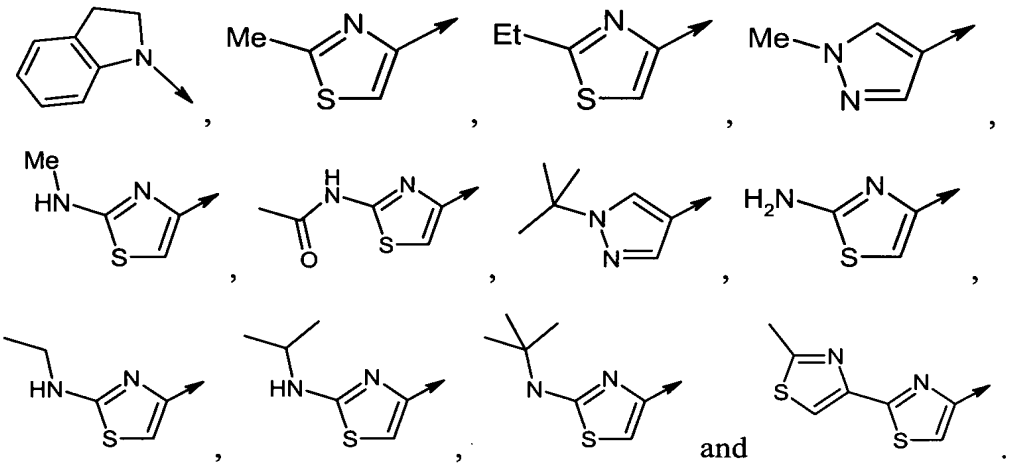
82. The compound according to claim 80, wherein said amino protecting group is selected from: formyl, trifluoroacetyl, phthalyl, *p*-toluenesulfonyl, as benzyloxycarbonyl, substituted benzyloxycarbonyl, 9-fluorenylmethyloxycarbonyl, *tert*-butyloxycarbonyl, ethoxycarbonyl, diisopropylmethoxycarbonyl, allyloxycarbonyl, cyclopentyloxycarbonyl, adamantyloxycarbonyl, triphenylmethyl, benzyl, trimethylsilyl, phenylthiocarbonyl and dithiasuccinoyl.

83. The compound according to claim 80, wherein said amino protecting group is selected from: *tert*-butyloxycarbonyl and 9-fluorenylmethyloxycarbonyl.

84. A compound of formula I according to claim 80, wherein $\mathbf{R_{21A}}$ is C_6, C_{10} aryl or Het, all optionally substituted with $\mathbf{R_{22}}$ as defined in claim 80.

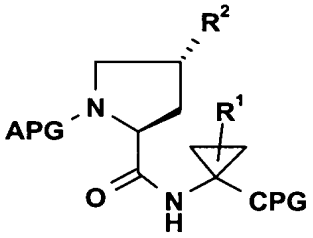
85. A compound of formula I according to claim 84, wherein $\mathbf{R_{21A}}$ is selected from the group consisting of:

T1700



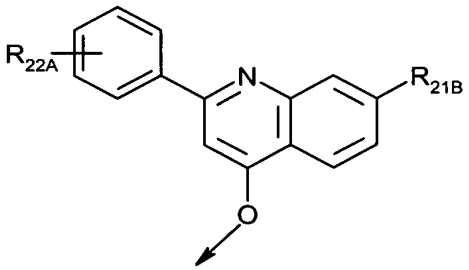
86. A compound of the formula:

T1701



wherein $\mathbf{R^2}$ is

T1702



wherein $\mathbf{R_{22A}}$ is $C_{1\text{-}6}$ alkyl; $C_{1\text{-}6}$ alkoxy; or halo; and $\mathbf{R_{21B}}$ is $C_{1\text{-}6}$ alkyl, $C_{1\text{-}6}$ alkoxy, amino, di(lower alkyl)amino, (lower alkyl)amide, NO_2, OH, halo, trifluoromethyl, or carboxyl;

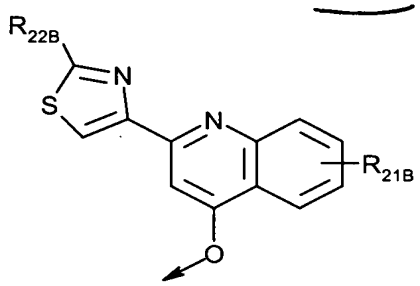
$\mathbf{R^1}$ is ethyl, vinyl, cyclopropyl, 1 or 2-bromoethyl or 1 or 2-bromovinyl;

APG is an amino protecting group selected from: 1) acyl groups, 2) aromatic carbamate groups, 3) aliphatic carbamate groups, 4) cyclic alkyl carbamate groups, 5) alkyl groups, 6) trialkylsilyl, and 7) thiol containing groups; and

CPG is a carboxyl protecting group selected from: alkyl esters, aralkyl esters, and esters being cleavable by mild base treatment or mild reductive means.

A

87. A compound of formula I according to claim 80, wherein $\mathbf{R^2}$ is:



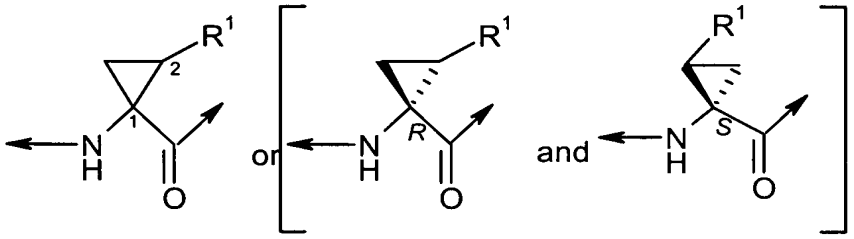
wherein $\mathbf{R_{22B}}$ is $C_{1\text{-}6}$ alkyl, amino optionally mono-substituted with $C_{1\text{-}6}$ alkyl, amido, or (lower alkyl)amide; and $\mathbf{R_{21B}}$ is $C_{1\text{-}6}$ alkyl, $C_{1\text{-}6}$ alkoxy, amino, di(lower alkyl)amino, (lower alkyl)amide, NO_2, OH, halo, trifluoromethyl, or carboxyl.

88. A compound of formula I according to claim 86 or 87, wherein $\mathbf{R_{21B}}$ is $C_{1\text{-}6}$ alkoxy, or di(lower alkyl)amino.

89. A compound of formula I according to claim 86 or 87, wherein $\mathbf{R_{21B}}$ is methoxy.

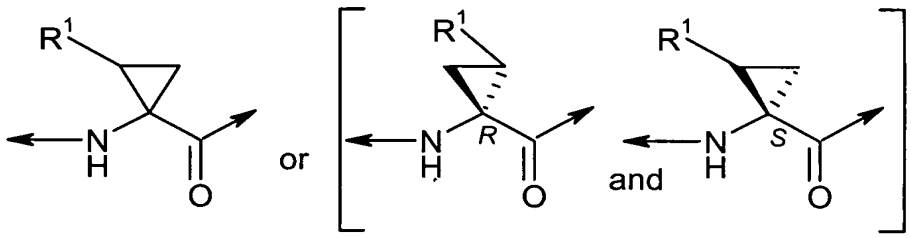
90. A compound of formula I according to claim 80, wherein $\mathbf{R^1}$ is vinyl.

91. A compound of formula I according to claim 80, wherein $\mathbf{R^1}$ at carbon 2 is orientated *syn* to the carbonyl at position 1, represented by the radical:



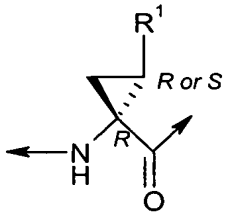
92. A compound of formula I according to claim 80, wherein $\mathbf{R^1}$ at position 2 is orientated *anti* to the carbonyl at position 1, represented by the radical:

T,1720



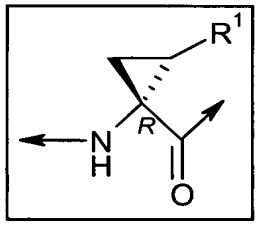
93. A compound of formula I according to claim 80, wherein carbon 1 has the *R* configuration:

T,1721



94. An optical isomer of a compound of formula I according to claim 93, wherein said $\mathbf{R^1}$ substituent and the carbonyl are in a *syn* orientation in the following absolute configuration:

T,1722



95. A compound of formula I according to claim 94, wherein $\mathbf{R^1}$ is ethyl, hence the asymmetric carbon atoms at positions 1 and 2 have the *R,R* configuration.

96. A compound of formula I according to claim 94, wherein $\mathbf{R^1}$ is vinyl, hence the asymmetric carbon atoms at positions 1 and 2 have the *R,S* configuration. --

REMARKS

Applicants have added claims directed to certain P2-P1 intermediates used in preparing compounds of the present invention. Support in general for P2-P1 intermediates is found at page 33, line 6 of the specification (in Scheme I) which recites the intermediate APG-P2-P1-CPG. Support for the definitions of P1 and P2 in